

(19)

Europäisches Patentamt  
European Patent Office  
Office européen des brevets



(11)

EP 0 865 172 A3

(12)

## EUROPEAN PATENT APPLICATION

(88) Date of publication A3:  
07.01.1999 Bulletin 1999/01

(51) Int Cl.<sup>6</sup>: H04B 7/26

(43) Date of publication A2:  
16.09.1998 Bulletin 1998/38

(21) Application number: 98301874.8

(22) Date of filing: 12.03.1998

(84) Designated Contracting States:  
AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC  
NL PT SE  
Designated Extension States:  
AL LT LV MK RO SI

- Honkasalo, Zhi-Chun  
01660 Vantaa (FI)
- Sunay, Oguz  
Morris Plains, NJ 07950 (US)
- Ma, Lin  
Euless, TX 76040 (US)

(30) Priority: 12.03.1997 US 815727

(71) Applicant: NOKIA MOBILE PHONES LTD.  
02150 Espoo (FI)

(74) Representative: Jeffery, Kendra Louise  
Nokia Mobile Phones (UK) Ltd.  
St. Georges Court  
St. Georges Road  
Camberley, Surrey GU15 3QZ (GB)

(72) Inventors:  
• Honkasalo, Harri  
01660 Vantaa (FI)

### (54) Method and apparatus for operating an indoor CDMA telecommunications system

(57) A method and apparatus is provided for the overlaid operation of two or more wireless communication systems where one of the two systems is a small-scale or indoor system and the other is a large-scale or outdoor system. The indoor system monitors the operation of the outdoor system and detects which part of the available radio resources are temporarily not in use or interference-free in the outdoor system. The indoor

system dynamically selects an unused outdoor channel for indoor operation. The indoor radio traffic is divided into TDD time slots with the slots being used for monitoring the existing radio communication on other outdoor channels so that fast changes according to changing traffic and interference conditions are possible. Synchronization, timing and phase control may be added to assist in the maintenance of an error-free communication network.

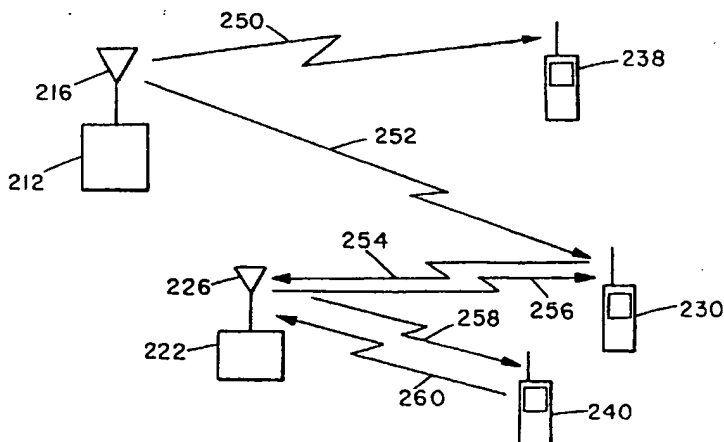


FIG. 6



European Patent  
Office

# EUROPEAN SEARCH REPORT

Application Number  
EP 98 30 1874

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	WO 94 29980 A (PANZER HERBERT ; PHILIPS PATENTVERWALTUNG (DE); KONINKL PHILIPS ELE) 22 December 1994 * page 2, line 30 - page 4, line 33 *	1-10, 13, 14, 22-28	H04B7/26
A	* page 6, line 34 - page 12, line 16; figures 4, 5, 10A, 10B *	17, 31	
A	EP 0 665 659 A (MATSUSHITA ELECTRIC IND CO LTD) 2 August 1995 * abstract; figure 4B *	10, 11, 29	
A	DE 43 33 396 A (SIEMENS AG) 6 April 1995 * column 1, line 6 - column 1, line 26 * * column 9, line 57 - column 10, line 9; figure 3A *	1-3, 13, 22	
A	US 5 341 397 A (GUDMUNDSON BJORN) 23 August 1994 * column 2, line 41 - column 4, line 18; figures 1, 2 *	1, 22	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			H04B
Place of search	Date of completion of the search	Examiner	
MUNICH	11 November 1998	Burghardt, G	
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone  Y : particularly relevant if combined with another document of the same category  A : technological background  O : non-written disclosure  P : intermediate document</p> <p>T : theory or principle underlying the invention  E : earlier patent document, but published on, or after the filing date  D : document cited in the application  L : document cited for other reasons  &amp; : member of the same patent family, corresponding document</p>			